APPLN. FILING DATE: SEPTEMBER 22, 2004
TITLE: METHOD AND APPARATUS FOR LOSSLESS
COMPRESSION AND DECOMPRESSION OF DATA
INVENTOR(S): ALDIS RIGERTS ET AL.
ATTORNEY DOCKET NO.: 034262-001   SHEET 1 OF 7
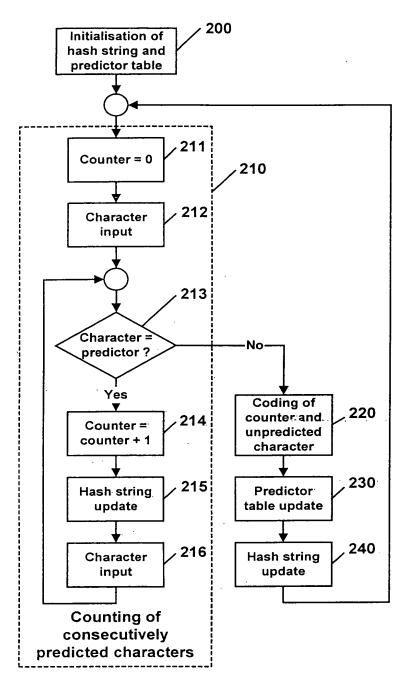
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FIG. 1

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Initialisation of
hash string and
predictor table — 200

Counter = 0 — 211

210

Character
input — 212

Character =
predictor ? — 213

No

Yes

Counter =
counter + 1 — 214

Coding of
counter and
unpredicted
character — 220

Hash string
update — 215

Predictor
table update — 230

Character
input — 216

Hash string
update — 240

Counting of
consecutively
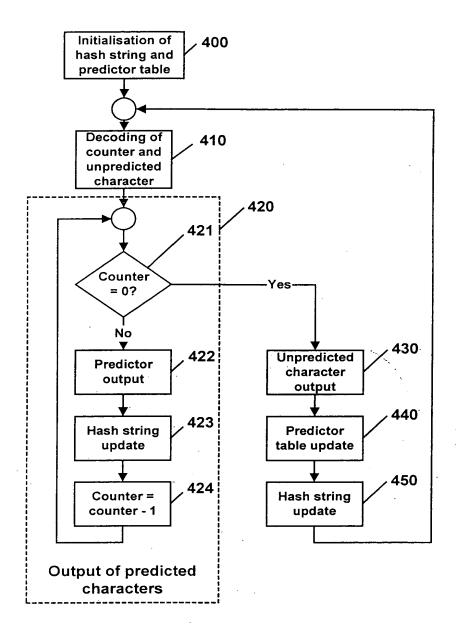predicted characters

FIG. 2

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300

Input characters	A	B	C	A	B	C	A	B	C	A	A	A	B
Counter	0	0	0	0	0	1	2	3	4	5	6	0	1
Output codes	0A	0B	0C	0A							6A		1B
Bits/Counter	1	1	1	1							5		3

301
302
303
304

Address	Predictor
A	B
B	C
C	A

311

Address	Predictor
A	A
B	C
C	A

312

Address	Predictor
A	B
B	C
C	A

313

FIG. 3A

Counter	Code
0	1
1	010
2	011
3	00100
4	00101
5	00110
6	00111

FIG. 3B

Initialisation of
hash string and
predictor table   400

Decoding of
counter and
unpredicted
character   410

Counter
= 0?   421   420

— Yes —

No

Predictor
output   422

Hash string
update   423

Counter =
counter - 1   424

Output of predicted
characters

Unpredicted
character
output   430

Predictor
table update   440

Hash string
update   450

FIG. 4

500   Predictor tables   ——Address——

Predictor table 1	Predictor 1	511
Predictor table 2	Predictor 2	512
Predictor table 3	Predictor 3	513
Predictor table 4	Predictor 4	514

501
502
503
504

520
Hash string 1

521
Hash string 2

——Address——

FIG. 5A

530
Input character n - 3

531
Input character n - 2

532
Input character n - 1

540
Hash string n

FIG. 5B

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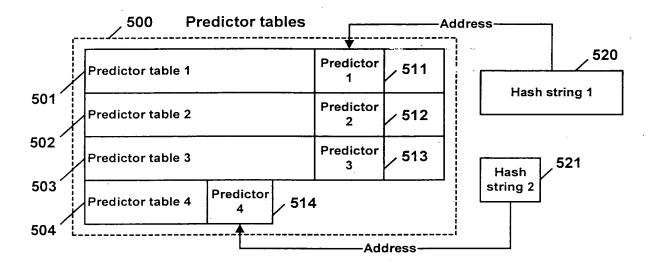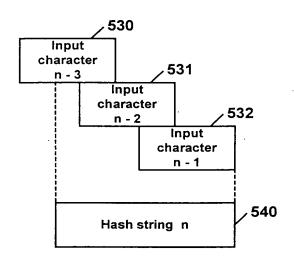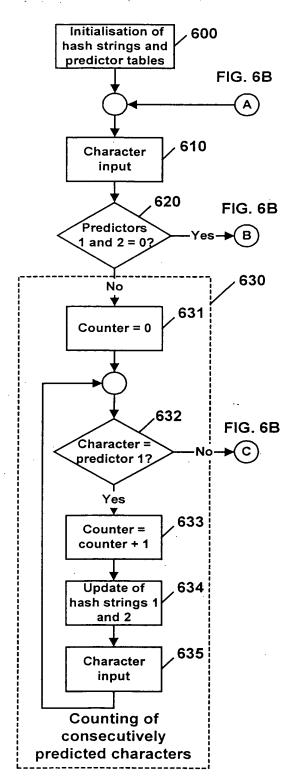ATTORNEY DOCKET NO.: 034262-001   SHEET 6 OF 7

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Initialisation of
hash strings and
predictor tables — 600

FIG. 6B

(A)

Character
input — 610

Predictors
1 and 2 = 0? — 620 —Yes→ (B)   FIG. 6B

No

630

Counter = 0 — 631

Character =
predictor 1? — 632 —No→ (C)   FIG. 6B

Yes

Counter =
counter + 1 — 633

Update of
hash strings 1
and 2 — 634

Character
input — 635

Counting of
consecutively
predicted characters

FIG. 6A

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C   FIG. 6A

A   FIG. 6A

699 Update of hash strings 1 and 2

651 *257 coding, counter-7 coding* ◄Yes─ **650** Counter > 6?

No

660 Character = predictor 2? ─Yes► **661** Update of predictor tables 1 and 2 ──► **662** *258+counter*3 coding*

No

670 Character = predictor 3? ─Yes► **671** Update of predictor tables 2 and 3 ──► **672** *259+counter*3 coding*

No

680 *260+counter*3 coding*

690 Character = predictor 4? ──Yes──

No

691 Coding of unpredicted character

694 *256 coding*

640 Predictor 1 = character predictor 2 = " " predictor 3 = "e"

692 Update of precictor table 4

693 Update of predictor tables 1, 2 and 3

FIG. 6A   B

FIG. 6B